

**IN THE CLAIMS:**

The status of each claim that has been introduced in the above-referenced application is identified in the ensuing listing of the claims. All claim amendments are made with out prejudice or disclaimer. This listing of the claims replaces all previously submitted claims listings.

**Claims**

1. (Original) An isolated nucleic acid coding for a dominant negative, mutant HSP22 polypeptide, said nucleic acid containing in comparison to the wild type HSP22 encoding sequence set forth in SEQ ID NO: 1 one or more mutations wherein the presence of said nucleic acid is indicative for the presence of a motor neuron disorder.
2. (Original) An isolated nucleic acid according to claim 1 wherein the presence of said nucleic acid is indicative for distal hereditary motor neuropathy type II.
3. (Currently amended) An isolated nucleic acid according to ~~claims 1 and 2~~ claim 1 wherein said mutations of HSP22 are set forth in Table 1.
4. (Currently amended) A nucleic acid probe, which is a fragment of the nucleic acid sequences according to, ~~claims 1-3~~ claim 1.
5. (Currently amended) A recombinant vector comprising an isolated nucleic acid according to ~~claims 1-4~~ claim 1.
6. (Original) A host cell comprising a recombinant vector according to claim 5.
7. (Original) A method for the preparation of a diagnostic assay to detect the presence of a motor neuron disorder in a human comprising detecting at least one mutation in the nucleotide position of SEQ ID NO: 1 in a tissue sample of said human, wherein said mutation respectively results in a dominant mutation of HSP22 and wherein the presence of said mutation is indicative of the presence of a motor neuron disorder.

8. (Original) A method according to claim 7 wherein said mutations for HSP22 are set forth in Table 1.
9. (Original) A transgenic non-human animal comprising a vector according to claim 5.
10. (Original) Use of HSP22 for the manufacture of medicament for the treatment of a motor neuron disorder.
11. (Original) Use of HSP22 according to claim 10 wherein said motor neuron disorder is hereditary motor neuropathy type II.